

Crustal deformation in the Philippines-Eastern Indonesia from GPS velocity field

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The region from Mindanao, the Philippines to Sulawesi, eastern Indonesia, that is located near the triple junction of three major plates (the Philippine Sea, the Australian, and the Sunda), forms a complicated tectonic deformation zone. From four GPS campaigns since 1997, we have determined crustal velocities at 7 sites in this region. We have found a counterclockwise rotation of the Philippine Islands caused by westward movement of the Philippine Sea with respect to the Sunda. Moreover we have found a large displacement gradient between Mindanao and Sulawesi, and fairly stable undeformed region to the west, which delineates the location of eastern edge of the Sunda block.